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EXAMINER	
MOORE, IAN N	

ART UNIT	PAPER NUMBER
2661	

DATE MAILED: 03/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/840,433	YU ET AL.	
	Examiner	Art Unit	
	Ian N Moore	2661	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *25 February 2005*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-19* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *5-10 and 12-19* is/are allowed.

6)☒ Claim(s) *1-4 and 11* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 February 2005* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

1. An objection to the drawings is withdrawn since it is being amended accordingly.

2. The objections to the title of the invention and the disclosure are withdrawn since they are being amended accordingly.

3. Claim objection, on claim 2 is withdrawn since it is being amended accordingly.

4. Claim rejection under second paragraph of 35 USC § 112, on claims 1-19 are withdrawn since it is being amended accordingly.

5. Claims 1-4 and 11 are rejected by the same ground of rejections.

Claim Rejections - 35 USC § 103

6. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

7. Claims 1-4 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vembu (U.S. 6,259,928) in view of Dohi (U.S. 6,341,224).

Regarding Claim 1, Vembu discloses a method for controlling outer loop power (see FIG. 5), comprising the following steps of:

a) measuring a FER, and calculating an error between measured FER and a target FER (see FIG.5, Steps 504,508, 528, 512; note that errors are determined based upon target error; see col. 11, lines 5-15; see col. 9, lines 5-30);

b) determining a grade of the error (see FIG. 5. steps 508, 528, 512; note that total number of errors; see col. 11, lines 16-25; see col. 9, lines 5-67);

c) calculating a grade of a SNR threshold adjusting step value (see FIG. 5, steps 520,532,526) in accordance with the grade of the error (see col. 11, lines 20-30);

d) determining an actual SNR threshold adjusting step value based on the calculated grade of the SNR threshold adjusting step value (see FIG. 5, steps 520,532,526; see col. 11, lines 25-45); and

e) adjusting a SNR threshold (see FIG. 2A, SNR threshold 204) in accordance with the actual SNR threshold adjusting step value (see FIG. 2A, measured SNR 208; see col. 5, lines 54-65; FIG. 5, steps 520,532,526; see col. 10, lines 60-67; col. 11, lines 1-5, 30-45);

Vembu does not explicitly disclose BER and the a variance value of the error. However, using BER and a grade of the variance value of the error in order to determined SNR is well known in the art. In particular, Dohi teaches measuring a BER, and calculating an error between measured BER and a target BER (see FIG. 4, BER measured unit 22 and BER comparator 23) and a variance value of the error (see col. 6, lines 50-66; an average error is the variance value of the error); determining a grade of the error and a grade of the variance value of the error (see FIG. 4. BER comparator 23; see col. 6, lines 46-52); calculating a grade of a SNR threshold adjusting step value in accordance with the grade of the error and the grade of the variance value of the error (see FIG. 4, Target SIR decision unit 12; see col. 6, lines 46-65); determining an actual SNR threshold adjusting step value based on the calculated grade of the SNR threshold adjusting step value (see FIG. 4, Target SIR decision unit 12 and SIR comparator 7; see col. 6, lines 50-62, 14-32); and adjusting a SNR

threshold in accordance with the actual SNR threshold adjusting step value (see FIG. 4, Target SIR decision unit 12 and SIR comparator 7; see col. 6, lines 55 to col. 7, lines 11). Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to measure BER, calculate variance value of error/BER in order to determine target SIR, as taught by Dohi in the system of Vembu, so that it would achieve transmission power control which provides consistent channel quality irrespective of propagation environment or received SIR; see Dohi col. 2, line 35-52.

Regarding Claim 2, Vembu discloses the relationship between error and measured FER= 0 or FER $\neq$ 0 (see col. 11, lines 12-15; note that adjusting SIR depending measured FER is 0 or not) and the variance value of the error is a current calculated error minus a previous calculated error (see col. 9, lines 54-67; see col. 11, lines 15-20). Dohi discloses the relationship between error and measured BER= 0 or BER $\neq$ 0 (see col. 6, lines 40-65; note that adjusting SIR depending measured FER is 0 or not) and the variance value of the error is a current calculated error minus a previous calculated error (see col. 6, lines 32-67; note that when comparing, one must determine the difference between two parameters).

Neither Vembu nor Dohi discloses the error is -10, when measured BER=0; the error is log10 (measured EBR/target BER), when measured BER 0. Vembu teaches determining number of errors based on measured FER (= 0 or $\neq$ 0) in order to determine the SNR threshold. Dohi teaches determining number of errors based on measured BER (= 0 or $\neq$ 0) in order to determine the SNR threshold. Setting the number of errors to "-10" and "log10 (measured BER/target BER)" does not define a patentable distinct invention over that in the combined system of Vembu and Dohi since both the invention as a whole and the combined

system of Vembu and Dohi are directed to measuring errors based upon BER and adjusting SNR in order to control the transmit power. The grade in specifically setting number of error presents no new or unexpected results, so long as the SNR threshold is defined, the transmit power control method is processed in a successful way. Therefore, to set number of errors to "-10" and "log10 (measured BER/target BER)" in order to determined SNR to control the transmission power would have been routine experimentation and optimization in the absence of criticality.

Regarding Claims 3 and 4, Vembu in view of Dohi discloses the grade of the error and the grade of the variance value of error as described above in claim 1.

Neither Vembu nor Dohi discloses the table with grade of error between –3 and 3 with respective error < -0.7 and > -0.7. Vembu teaches determining number of errors based on measured FER in order to determine the SNR threshold. Dohi teaches determining number of errors and variance value of error based on measured BER in order to determine the SNR threshold. Setting and creating a table with grade of error between –3 and 3 and the number of errors to "< -0.7"and "> -0.7" does not define a patentable distinct invention over that in the combined system of Vembu and Dohi since both the invention as a whole and the combined system of Vembu and Dohi are directed to measuring errors and determining the BER/error change based upon BER and adjusting SNR in order to control the transmit power. The grade in specifically setting number of error and the grade of error presents no new or unexpected results, so long as the SNR threshold is defined, the transmit power control method is processed in a successful way. Therefore, to set the table with grade of error between –3 and 3 with respective error < -0.7 and > -0.7 in order to determined SNR to

control the transmission power would have been routine experimentation and optimization in the absence of criticality.

Moreover, it is obvious that one skilled in the ordinary art would easily populate a table with grade of error between –3 and 3 with respective error < -0.7 and > -0.7 in order to determine the target/threshold SNR to control the transmission power.

Regarding Claim 11, Vembu in view of Dohi discloses the actual SNR adjusting step value threshold is determined according to the grade of SNR threshold adjusting step value as described above in claim 1.

Neither Vembu nor Dohi discloses the table with grade of SNR threshold adjusting step value between –3 and 3 with actual SNR threshold adjusting step value -0.6 and 0.6. Vembu teaches grade of SNR threshold and actual SNR threshold in order to adjust SNR. Dohi teaches grade of SNR threshold and actual SNR threshold in order to adjust SNR. Setting the grade of SNR threshold to "-3"and "3" and actual SNR threshold to "-0.6" and "0.6" does not define a patentable distinct invention over that in the combined system of Vembu and Dohi since both the invention as a whole and the combined system of Vembu and Dohi are directed to adjusting SNR to target/threshold in order to control the transmit power. The grade in specifically crating/setting the grade of SNR threshold and the actual SNR threshold presents no new or unexpected results, so long as the target SNR threshold is defined and adjusted, the transmit power control method is processed in a successful way. Therefore, to set the table with grade of SNR threshold adjusting step value between –3 and 3 with actual SNR threshold adjusting step value -0.6 and 0.6 in order to adjust SNR to control

the transmission power would have been routine experimentation and optimization in the absence of criticality.

Moreover, it is obvious that one skilled in the ordinary art would easily populate a table with grade of SNR threshold adjusting step value between –3 and 3 with actual SNR threshold adjusting step value -0.6 and 0.6 in order to adjust SNR to control the transmission power.

Allowable Subject Matter

8. Claims 5-10 and 12-19 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

9. Applicant's arguments filed 2-25-2005 have been fully considered but they are not persuasive.

Regarding claim 1, the applicant argued that, "...calculating an error between measured FER and a target FER is incorrect because no error calculation is performed in Vembu..." in page 16, paragraph 1.

In response to applicant's argument, the examiner respectfully disagrees that calculating an error between measured FER and a target FER is incorrect because no error calculation is performed in Vembu. Vembu discloses measuring a FER, and calculating an error between measured FER and a target FER (see FIG.5, Steps 504,508, 528, 512; note that errors are determined based upon target error; see col. 11, lines 5-15; see col. 9, lines 5-30).

In particular, Examiner asserts evaluating the received frame error rate as "measuring a FER", the threshold frame error rate as "target FER", and determining/calculating the number of errors between received FER and threshold error rate as "calculating an error between measured FER and a target FER", as recited in see FIG. 5, steps 504,508,528,512.

Regarding claim 1, the applicant argued that, "...Dohi teaches calculating an error between measured BER and a target BER and a variance value of the error, this assertion is incorrect ... the "average error" is different from variance value of the error...and Dohi does not teach of suggest those claim features..." in page 16, paragraph 2-3, page 17, paragraph 1.

In response to applicant's argument, the examiner respectfully disagrees that Dohi teaches calculating an error between measured BER and a target BER and a change of the error, this assertion is incorrect... the "average error" is different from variance value of the error...and Dohi does not teach of suggest those claim features.

Dohi teaches measuring a BER, and calculating an error between measured BER and a target BER (see FIG. 4, BER measured unit 22 and BER comparator 23) and a change of the error or a variance value of the error (see col. 6, lines 50-66; an average error is the change of the error or the variance value of the error). Note that "average value" is the same as "variance value" since both "average" and "variance" value resulted from determining the variation/differences values, and this concept is well known in the art. Thus, it is clear that "average error" the same as "a variance value of the error".

The applicant argued that, "...one of ordinary skill in the art would not have been motivated to combine the teachings of Dohi with Vembu..." in page 17, paragraphs 2 and 4.

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988)and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the motivation is disclosed by Dohi col. 2, line 35-52, that it would achieve transmission power control which provides consistent channel quality irrespective of propagation environment or received SIR.

The applicant argued that, "...determining a grade of the error and a grade of the variance value of the error...neither Vembu or Dohi teach or suggested this feature...the assertion incorrect as a simple count simply does not provide enough information to determine a degree or grade of an error...this feature is also not taught by Dohi...cited references either combined or taken separately, fail to teach or suggest this element..." in page 17, paragraph 3.

In response to applicant's argument, the examiner respectfully disagrees that determining a grade of the error and a grade of the variance value of the error...neither Vembu or Dohi teach or suggested this feature...the assertion incorrect as a simple count simply does not provide enough information to determine a degree or grade of an error...this feature is also not taught by Dohi...cited references either combined or taken separately, fail to teach or suggest this element.

Vembu discloses the determining a grade of the error (see FIG. 5. steps 508, 528, 512; note that total number of errors; see col. 11, lines 16-25; see col. 9, lines 5-67), and Dohi discloses a grade of the variance value of the error (see col. 6, lines 46-52). In particular, in order to define the degree/grade, one must first determine the value/number/count from the normal value/number/counts (e.g. 0) so that one can clearly determine the high/increase or low/decrease with respect to value/number/count. By determining the count of the total number of error, one can determine the degree/grade of the error. Thus, it is clear that "counting the number of errors" is the same as "determining a grade/degree of the error" since it would provide the degree/grade of a received signal power quality.

In view of the above, **the examiner respectfully disagrees** with applicant's argument and believes that the combination of references as set forth in the 103 rejections is proper, thus, Claims 1-4, 11, and 12-19 are obvious over Vembu in view of Dohi for at least the reasons discussed above.

Conclusion

10. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after

the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ian N Moore whose telephone number is 571-272-3085. The examiner can normally be reached on M-F: 9:00 AM - 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Chau T Nguyen can be reached on 571-272-3126. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

INM
3/18/05

BOB PHUNKULH
PRIMARY EXAMINER